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EXAMINER	
JAMA, ISAAK R	

ART UNIT	PAPER NUMBER
2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/586,970	MATSUMOTO ET AL.	
	Examiner	Art Unit	
	ISAAK R. JAMA	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/22/2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) *11,17,18,20,21 and 26* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,12-16,19,22-25 and 27-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status Of claims

1. Claims 1-10, 12-16, 19, 22-25 and 27-29 are pending in the Application.

Response to Arguments

2. Applicant's arguments filed on 12/22/2009 have been fully considered but they are not persuasive. Applicants argue that Nobukiyo fails to disclose Applicants' claimed subject matter of repeating a report signal (i.e., sending the same (i.e., identical) report signal twice). Thus, it necessarily follows per force that Nobukiyo cannot disclose the instant claimed subject matter of repeating a report signal when an acquired number of communication terminal apparatuses is equal to or less than a predetermined value. And at the same time, Applicants also note that Nobukiyo may disclose reporting a revised hysteresis margin (Hysteresis being the effect on changing the number of users due the level of congestion or lack of it in a cell) as proposed in the Office Action. The Examiner respectfully disagrees with the Applicants assertion that Nobukiyo fails to teach repeating a report signal. Nobukiyo teaches a best cell amendment method by which the radio network controller determines the best cell for a mobile station and amends the best cell for that mobile station **[Column 1, lines 12-15]** when cells having a large amount of traffic are adjacent, however, differences will occur in system throughput due to the distribution of users and the amount of data that is being transmitted by the base station. In such a case, system throughput is improved by using the above-described system throughput to determine the degree of congestion, and

then switching mobile stations from cells having a high level of congestion to cells having even a slightly lower level of congestion **[Column 3, lines 12-20]**, and that a mobile station moves among a plurality of cells, and the best cell therefore changes over time along with this movement (i.e. the hysteresis margin is reported every time the mobile moves). The radio network controller must therefore determine the best cell for that mobile station at fixed time intervals, and when a best cell other than the cell that is currently set as the best cell becomes the best cell, a process is necessary for setting this new cell as the best cell **[Column 1, lines 56-62]**. Because Nobukiyo and the primary reference of Sudo are from the same or similar fields of endeavor, the two are combinable. Therefore, the earlier rejection stands.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 2, 6-8, 12 and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication Number 2004/0233838 (Sudo et al.) in view of U.S. Patent Number 7,079,859 (Nobukiyo et al.)

Regarding claims 1 and 28-29, Sudo teaches a communication terminal apparatus **[Figure 32]** comprising: a determination section that makes a determination of a propagation path state through which a received multi-carrier signal is transmitted **[Figure 37, #s 123 & 125]**; a specifying section **[Figure 32, # 261, page 12, paragraph 0195; i.e. Size comparison section 261 compares propagation path characteristics A, B, C & D with threshold value 1, and reports the comparison result as decision signal S10 to selection sections 251 and 252 of transmitting system 250 of the OFDM communication apparatus]** that specifies a frequency band having a propagation path state that is equal to or better than a predetermined level in a frequency band used for the received multicarrier signal, according to the determination result **[Figures 46 A & B, page 17, paragraph 0265; i.e. OFDM signals transmitted from an OFDM communication apparatus of Embodiment 23 of the present invention. A special feature of this embodiment is that specific subcarriers of symbols that transmit a propagation path estimation preamble are made null signals, and another antenna transmits a propagation path estimation preamble from only subcarriers in which that null signal is inserted at the same time. Then, on the receiving side, the propagation path estimation results for subcarriers in which a null signal is inserted are calculated by means of interpolation. By this means, it is possible to prevent the occurrence of residual error deviation in propagation path estimation results, and to prevent degradation of error rate characteristics]**; a reporting section that transmits a report signal including frequency band information indicating the specified frequency band to a base station apparatus

[Figure 32, item S10, page 12, paragraph 0199; i.e. the propagation path characteristics of OFDM signals transmitted in a particular frequency band by transmitting system 250 are estimated on the receiving side, the estimation result (decision signal S10) is reported to the OFDM communication apparatus that has transmitting system 250, and transmitting system 250 forms an OFDM signal that reflects that decision signal S10], but Sudo fails to teach an acquisition section that requires the number of communication terminal apparatuses in a communication system to which the communication terminal apparatus belongs, wherein the reporting section repeats the report signal when the acquired number of communication terminal apparatuses is equal to or less than a predetermined value. Nobukiyo teaches a best-cell amendment method for amending hysteresis margin according to the degree of congestion whereby when the number of mobile stations u(k) is greater than a threshold value u_ threshold, the RNC determines that there is a large number of mobile stations in the cell, determines that the degree of congestion in cell k is high, and sets a small hysteresis margin hm_a. If the number of mobile stations u(k) is equal to or less than threshold value u_ threshold, the RNC determines that there are few mobile stations in the cell, determines that the degree of congestion in cell k is low, and sets a large hysteresis margin hm_b. The RNC then reports the amended hysteresis margin to each mobile station that has set cell k and HS-PDSCH **[Figure 10, columns 10 & 11, lines 66-67 and 1-16]**. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the congestion control method of

Nobukiyo into the propagation path estimation of Sudo in order to balance the load of the serving cell.

7. Regarding claim 2, Sudo teaches a communication terminal apparatus wherein: the frequency band used for the received multi-carrier signal is divided into a plurality of frequency bands known to both the base station apparatus and the communication terminal apparatu**s [Figure 1, i.e. OFDM sub-carriers]**; the specifying section **[Figure 33, # 261]** has a selection section that selects a frequency band having a propagation path state that is equal to or better than a predetermined level among the plurality of frequency bands **[Figure 33, page 13, paragraph 0203, Threshold value 1]**; and the reporting section transmits a report signal via the frequency band selected by the selecting section, and reports the frequency band information to the transmission apparatus **[Figure 32, item S10, page 12, paragraph 0199; i.e. the propagation path characteristics of OFDM signals transmitted in a particular frequency band by transmitting system 250 are estimated on the receiving side, the estimation result (decision signal S10) is reported to the OFDM communication apparatus that has transmitting system 250, and transmitting system 250 forms an OFDM signal that reflects that decision signal S10]**.

8. Regarding claim 6, Sudo teaches a communication terminal apparatus further comprising, a generation section that generates additional information on the frequency band selected by the selection section **[Page 1, paragraph 0010; in order to demodulate the transmit signals TX1 and TX2 from the received signals, it is necessary to estimate the four propagation path characteristics A, B, C, and D.**

For this purpose, OFDM communication apparatus 1 inserts propagation path estimation preambles in the transmit signals or transmits OFDM signals with specific sub-carriers as pilot carriers], wherein: the selection section selects a plurality of frequency bands having the propagation path state that is equal to or better than the predetermined level **[Figure 33, page 13, paragraph 0203, Threshold value 1]**; the generation section assigns priorities to the plurality of frequency bands selected by the selection section according to the propagation path state, and includes the priorities in the additional information; and the reporting section reports the additional information in addition to the frequency band information to the base station apparatus **[Figure 32, item S10, page 12, paragraph 0199; i.e. the propagation path characteristics of OFDM signals transmitted in a particular frequency band by transmitting system 250 are estimated on the receiving side, the estimation result (decision signal S10) is reported to the OFDM communication apparatus that has transmitting system 250, and transmitting system 250 forms an OFDM signal that reflects that decision signal S10]**.

5. Regarding claim 7, Sudo teaches a communication terminal apparatus wherein the reporting section changes the pilot pattern or transmission power of the report signal according to the priorities assigned by the generation section, and reports the additional information to the base station apparatus **[Page 8, paragraph 0134; the antenna that transmits pilot carriers is switched alternately. Also, while pilot carriers are being transmitted from one antenna, the other antenna transmits null signals as sub-carriers corresponding thereto]**.

6. Regarding claim 8, Sudo teaches a communication terminal apparatus wherein after the frequency band information is reported, reception processing of the received multi-carrier signal is performed in the frequency band specified by the specifying section **[Figure 32, item S10, page 12, paragraph 0199; i.e. the propagation path characteristics of OFDM signals transmitted in a particular frequency band by transmitting system 250 are estimated on the receiving side, the estimation result (decision signal S10) is reported to the OFDM communication apparatus that has transmitting system 250, and transmitting system 250 forms an OFDM signal that reflects that decision signal S10]**.

7. Regarding claim 12, Sudo teaches a communication terminal apparatus wherein the determining section performs one of estimation of the propagation path fluctuation of the received multi-carrier signal and reception quality measurement of the received multi-carrier signal to determine the propagation path state of the received multi-carrier signal **[Figure 33, # 261 i.e. Size comparison section 261 compares absolute value $|AD-BC|$ with threshold value 1, and reports the comparison result as decision signal S10 to selection sections 251 and 252 of transmitting system 250 of the OFDM communication apparatus]**.

8. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sudo and Nobukiyo above as it applies to claim 1, in view of U.S. Patent Application Publication Number 2005/0063378 (Kadous).

9. Regarding claims 3 and 4, Sudo and Nobukiyo teach the limitations of claim 1 above. But Sudo and Nobukiyo fail to teach that the report signal comprises an ACK

signal or an NACK signal used for automatic repeat request control. Kadous discloses an incremental redundancy transmission for multiple parallel channels in a MIMO communication system, wherein the receiver may send back an acknowledgment (ACK) if the packet is decoded correctly or a negative acknowledgment (NAK) if the packet is decoded in error **[Page 1, paragraph 0008]**, and that the ACK signal and the NACK signal are distinguished by a difference in pilot patterns or transmission power **[Figure 3]**. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the reporting of Kadous in the combined methods of Sudo and Nobukiyo in order to assure that the correct information is received.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sudo and Nobukiyo above as it applies to claim 2, in view of U.S. Patent Number 7,295,517 (Anim-Appiah et al.).

11. Regarding claim 5, Sudo teaches the limitations of claim 1. In addition, Sudo teaches a communication terminal apparatus wherein the reception apparatus sets a transmission signal modulation scheme based on reception quality of the received multi-carrier signal **[Page 19, paragraph 0287]**, but Sudo and Nobukiyo fail to teach that a report signal is modulated by a modulation scheme having a higher transmission rate than the modulation scheme set based on the reception quality. Anim-Appiah teaches that channel quality metrics are used to estimate channel quality and thereby select the

appropriate data rates. Most channel quality metrics are related to or estimated from the SNR measured at the receiver in an effort to set the data transmission rates of each channel **[Column 2, lines 21-25]**. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the transmission rate of Anim-Appiah in the combined methods of Sudo and Nobukiyo in order to comply with the capacity of the communication channel.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sudo and Nobukiyo above as it applies to claim 1, in view of U.S. Patent Number 7,050,395 (Chow et al.).

12. Regarding claim 9, Sudo and Nobukiyo teach the limitations of claim 1, above. In addition, Sudo teaches a reception apparatus wherein further comprising: an identifying section that identifies a type of data mapped on the received multi-carrier signal **[Figure 9A, page 5, paragraph 0104)]**; But Sudo and Nobukiyo fail to teach that a control section stops part of the circuit for a predetermined time period when the identified data type corresponds to data that is successively transmitted from the base station apparatus or data for which a reception error within a predetermined range is allowed. Chow teaches a method and apparatus for disabling an interface between network element data processing units, wherein if the number of ACKs (Acknowledgements) received equals the number of data frames transmitted, physical connection circuitry stops processing **[Column 10, lines 35-39]**. Therefore, it would have been obvious to a

person of ordinary skill in the art at the time the invention was made to include the transmission rate of Chow in the combined methods of Sudo and Nobukiyo in order to preserve the resources of the communication channel.

13. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sudo and Nobukiyo above as it applies to claim 1, in view of U.S. Patent Application Publication Number 2005/0096089 (Ishii et al.).

14. Regarding claim 10, Sudo and Nobukiyo teach the limitations of claim 1, above. But Sudo and Nobukiyo fail to teach a determining section that determines whether or not the reception apparatus is in a static state; and a control section that stops part of circuit for a predetermined time period when the communication terminal apparatus is determined to be in the static state. Ishii teaches a base station apparatus and a method of allocating resources, wherein a decision section decides whether the communication terminal apparatus is stationary or moving and a resource reservation allocation section allocates reservations of resources according to the respective numbers of moving terminal apparatuses **[Abstract]**. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the resource allocation method of Ishii in the combined system of Sudo and Nobukiyo in order to allocate resources properly according to mobile status.

15. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sudo and Nobukiyo above as it applies to claim 2, in view of U.S. Patent Application Publication Number 2003/0189917 (Sudo; hereinafter '917).

16. Regarding claim 13, Sudo and Nobukiyo teach a reception apparatus of claim 2, above. But what Sudo and Nobukiyo fail to teach is that a plurality of sub-carrier signals included in the frequency band are assigned to the reception apparatus and other reception apparatuses in advance. Sudo ('917) teaches a base station apparatus and radio communication method where, a band assigning section refers to the timing signal output from timing generating section, and recognizes the slot configuration in the communication slot. Then, based on the result of detection of received levels in level detecting section, band assigning section assigns an uplink slot and downlink slot configured at predetermined positions in the communication frame to each of terminal stations #1 to #n **[Figure 4, page 2, paragraph 0042]**. In addition, Sudo ('917) discloses that the base station performs communication according to an OFDM-CDMA system **[Page 7, paragraph 0109]**. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the method of Sudo ('917) in the combined systems of Sudo and Nobukiyo in order to improve the received quality of the communication signal.

17. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sudo and Nobukiyo above as it applies to claim 2, in view of U.S. Patent Number 7,020,110 (Walton et al.).

18. Regarding claim 14, Sudo and Nobukiyo teach the claim limitation of claim 2, above. But Sudo and Nobukiyo fail to teach that the report signal is subjected to code division multiplexing. Walton teaches that for a downlink, multiple scheduled terminals may share a particular transmit antenna at the base station, and that such a sharing may be achieved via code division multiplexing; i.e. signals received from mobiles are subjected to a multiplexing scheme, including code division **[Column 40, lines 12-23]**. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the resource allocation of Walton in the combined systems of Sudo and Nobukiyo in order to allow multiple terminals to be multiplexed over the same physical channel.

19. Claims 15, 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication Number 2004/0233838 (Sudo et al.) in view of U.S. Patent Number 7,372,889 (Atarashi et al.).

20. Regarding claim 15, Sudo teaches a base station apparatus **[Figure 33, # 280]** comprising: an acquisition section that acquires from a communication terminal apparatus **[Figure 33, Selection elements 251 and 252]**, frequency band information

indicating a frequency band having a propagation path state that is equal to or better than a predetermined level among a plurality of frequency bands **[Figure 33, S10]**; into which a frequency band used for a transmission multi-carrier signal is divided and which are known to both a base station apparatus and a reception apparatus **[Figure 1, i.e. OFDM sub-carriers]**; and a transmitting section that transmits a signal to the communication terminal apparatus via the frequency band indicated by the frequency band information **[Figure 33, # 280]**. But Sudo fails to teach a base station apparatus wherein the transmitting section instructs each communication terminal on the repetition number of the frequency band information in accordance with the number of the accommodated communication terminals. Atarashi teaches a method whereby the base station transmits a signal to the mobile station reporting spreading factor and a number of chip repetitions to be used by the mobile station **[Figure 5, S21]**. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the method of Atarashi in the system of Sudo in order to control the capacity of the communication channel.

21. Regarding claim 16, Sudo further teaches a base station apparatus wherein the acquisition section comprises: an identifying section that identifies the frequency band through which a signal is transmitted from the communication terminal apparatus; and a judging section that judges the identified frequency band is the frequency band having the propagation path state that is equal to or better than the predetermined level **[Figure 33, # 261 i.e. Size comparison section 261 compares absolute value $|AD-BC|$ with threshold value 1, and reports the comparison result as decision signal**

S10 to selection sections 251 and 252 of transmitting system 250 of the OFDM communication apparatus].

14. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sudo and Atarashi above as it applies to claim 17, in view of U.S. Patent Application Publication Number 2004/0235485 (Tanaka).

15. Regarding claim 19, Sudo and Atarashi teach the limitations of claim 17, above. In addition, Sudo teaches a transmission apparatus wherein the reporting section transmits the report signal **[Figure 33, #'s 251 & 252; i.e. frequency selection sections that receive a propagation path determination signal S10]**. But Sudo and Atarashi do not specifically teach that the frequency band assigned to a communication terminal apparatus is updated. Tanaka teaches a wireless LAN system and channel allocation method wherein the main frequency of the frequency band used by the wireless communication system is being updated **[Page 10, claim 16]**. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the method of Tanaka in the combined systems of Sudo and Atarashi in order to accommodate new users.

16. Claims 22- 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sudo and Atarashi above as it applies to claim 15, in view of U.S. Patent Number 7,020,110 (Walton et al.).

17. Regarding claims 22, 23 and 25, Sudo and Atarashi teach the limitations of claim 15 above. In addition, Sudo teaches a base station apparatus wherein the acquisition section acquires a priority of the propagation path state of the frequency band in

addition to the frequency band information from each of the plurality of communication terminal apparatuses **[Page 26, paragraph 0390]**. But Sudo and Atarashi do not specifically teach that the transmitting section determines a frequency band to assign to a signal for each communication terminal apparatus based on the frequency band information and the priority of the propagation path state of the frequency band. Walton teaches a resource allocation for MIMO-OFDM communication systems where each frequency sub-channel is assigned to a set of high priority terminals **[Figure 4, columns 19 & 20, lines 66-67 and 1-30)]**. In addition, Walton teaches that the channel state information (CSI) received from the receivers may be used to achieve high throughput by assigning a proper set of one or more terminals to the available transmission channels such that they are allowed to communicate simultaneously with the base station **[Column 10, lines 11-15]**. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the resource allocation of Walton in the combined system of Sudo and Atarashi in order to improve the performance of the communication system.

18. Regarding claim 24, Walton further teaches a base station apparatus wherein the transmitting section transmits a report signal via the determined frequency band **[Figure 2, steps 214-236]**. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the resource allocation of Walton in the combined system of Sudo and Atarashi in order to maximize the performance of the resource allocation process.

19. Regarding claim 27, Walton further teaches a base station apparatus wherein the acquisition section performs the acquiring when updating the frequency band assigned to the communication terminal apparatuses **[Figure 2, steps 216-230]**. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the resource allocation of Walton in the combined system of Sudo and Atarashi in order to maximize system performance.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ISAAK R. JAMA whose telephone number is (571)270-5887. The examiner can normally be reached on 7:30 - 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G. Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/IRJ/

/LESTER KINCAID/

Supervisory Patent Examiner, Art Unit 2617